

ABSTRACT

A multilayer optical interference filter having a multiplicity of optical cavities separated by a dielectric reflector stacks to achieve either a very narrow passband region or sharp transition between the passband and reflective region is substantially free of stress to preserve the desired optical performance upon
5 fabrication into miniature discrete filter elements. The substantial stress reduction is achieved by removing the filter from the substrate used in the deposition process in a controlled manner to preserve the structural integrity of the resulting free standing multilayer film structure. The structure can be further bonded or attached to other optical components to suppress a thermal shift in center wavelength without reintroducing
10 stress or interposing a massive substrate in the optical path through the filter.

α_1 α_2 α_3 α_4 α_5 α_6 α_7 α_8 α_9 α_{10} α_{11} α_{12} α_{13} α_{14} α_{15} α_{16} α_{17} α_{18} α_{19} α_{20} α_{21} α_{22} α_{23} α_{24} α_{25} α_{26} α_{27} α_{28} α_{29} α_{30} α_{31} α_{32} α_{33} α_{34} α_{35} α_{36} α_{37} α_{38} α_{39} α_{40} α_{41} α_{42} α_{43} α_{44} α_{45} α_{46} α_{47} α_{48} α_{49} α_{50} α_{51} α_{52} α_{53} α_{54} α_{55} α_{56} α_{57} α_{58} α_{59} α_{60} α_{61} α_{62} α_{63} α_{64} α_{65} α_{66} α_{67} α_{68} α_{69} α_{70} α_{71} α_{72} α_{73} α_{74} α_{75} α_{76} α_{77} α_{78} α_{79} α_{80} α_{81} α_{82} α_{83} α_{84} α_{85} α_{86} α_{87} α_{88} α_{89} α_{90} α_{91} α_{92} α_{93} α_{94} α_{95} α_{96} α_{97} α_{98} α_{99} α_{100}